

REMARKS

Claims 1-14, 16-26, 28-34 and 36-40 were presented for examination and were rejected.

The applicants have amended claims 1-14 and 16-25, and have added new claims 41-44.

Claims 26-40 have been canceled without prejudice, and the applicants respectfully reserve the right to re-present any or all of these claims in this or another application.

The applicant wishes to thank Examiner Shawn Riley for his helpful comments and suggestions during the telephone interview with Kenneth Ottesen (agent of record) on January 19, 2010. Pursuant to 37 C.F.R. § 1.133(b), the applicant states that the substance of the interview was a discussion of the rejected claims and the asserted references. No other substantive information was discussed.

The applicants respectfully request reconsideration in light of the amendments and the following comments.

35 U.S.C. § 102 Rejection of Claims 1, 16, 26, and 40

Claims 1, 16, 26, and 40 were rejected under 35 U.S.C. § 102(b) as being anticipated by Petersen et al., U.S. Publication 20030158478 (hereinafter "D3") and by Patel et al., U.S. Publication 20020057171 (hereinafter "D4").

Claim 1, as amended, recites:

1. A modulated power supply including a voltage summer, a first voltage source, and a second voltage source, for providing a modulated power supply voltage, the voltage summer including a transformer having a primary side and a secondary side, wherein the first voltage source is connected to provide a first voltage to one side of the transformer, and the second voltage source is connected to provide a second voltage to another side of the transformer, wherein the transformer provides a modulated output voltage representing the first voltage adjusted by the second voltage.

With regard to D3, nowhere does D3 teach or suggest, alone or in combination with the other references, what amended claim 1 recites — namely a transformer wherein a first voltage to be summed is connected to the primary side and a second voltage to be summed is connected to the secondary side.

D3 discloses a transmitter for generating multilevel transmit waveforms for medical diagnostic ultrasound in which voltages from a plurality of sources are superposed or summed. The disclosure of D3 relates to a transformer with three or more magnetic flux

paths that superposes magnetic flux in one path from the plurality of other paths (paragraph [0019]). Referring to Figure 1A there is shown a secondary winding 20 and two primary windings 22, 24. The voltages applied to the primary windings 22, 24 control the direction and amplitude of magnetic flux (paragraph [0022]) and the voltage at the secondary winding 20 is approximately the turns-weighted sum of the input voltages of the primary windings 22, 24 (paragraph [0024]). D3 therefore sums the two voltages applied to the two primary windings, the result being output on the secondary winding (e.g., V_{OUT} in Figure 7).

As stated above, D3 does not disclose a transformer wherein a first voltage to be summed is connected to the primary side and a second voltage to be summed is connected to the secondary side. Instead, the voltages to be summed in D3 are applied to the two or more primary windings.

Moreover, D3 does not disclose a modulated power supply.

Against this background, the technical problem solved by the present invention as specified in claim 1 may be defined as how to provide a voltage summer with reduced complexity and weight. The present invention as claimed in claim 1 solves this problem by providing a voltage summer wherein the second voltage to be summed is connected to the secondary side of the transformer. Similarly, claim 16 provides a method for summing voltages. This removes the need to have multiple primary windings and multiple primary magnetic flux paths. The complexity of the transformer is thereby reduced and, largely because the flux paths usually comprise ferrite cores, so is the weight. These are critical issues in designing a modulated power supply, and there is nothing to suggest that the arrangement of D3 is suitable for implementation as part of a modulated power supply.

For the reasons stated above, the applicant respectfully submits that claim 1 is novel as well as inventive over D3, and also submits that claim 1 should be allowed.

With regard to D4, nowhere does D4 teach or suggest, alone or in combination with the other references, what amended claim 1 recites — namely that a second voltage to be summed is connected to the secondary side of the voltage summer.

D4 discloses a method and apparatus to lay out planar magnetic coils on a printed circuit board (PCB). A first primary winding (Figure 1) is created on a first conductive layer of a PCB and a first secondary winding (Figure 2) on a second conductive layer of the PCB directly below the first primary winding. A second primary winding is created on a third conductive layer of the PCB, and a second secondary winding is created on a fourth

conductive layer of the PCB, continuing in this fashion until each one of the desired number of primary and secondary windings are created within the PCB (paragraph [0006]). The configuration of D4 is shown clearly in Figure 9.

As stated above, D4 does not disclose a voltage summer including a transformer, wherein a first voltage to be summed is connected to a primary side and a second voltage to be summed is connected to a secondary side. D4 relates to planar magnetic devices on a PCB and, as such, does not disclose the summing of voltages at all.

Moreover, D4 does not disclose a modulated power supply.

By connecting voltages to be summed to the primary and secondary sides of a transformer, the present invention as defined in claim 1 provides an improved method of combining voltages in, for example, a modulated power supply (see page 3, lines 20 and 21). Beginning with the disclosure of D4, the skilled person would not be motivated to use a transformer for summing voltages in this way because D4 does not relate to the summing of voltages at all. D4 merely teaches a method of providing planar inductors and transformers on a PCB. Nothing in the disclosure of D4 would lead the skilled person to the arrangement of claim 1 or, for that matter, the method of claim 16 discussed below.

Therefore, the applicant respectfully submits that claim 1 is novel as well as inventive over D4. The applicant further submits that claim 1 should be allowed.

Claim 16, as amended, recites:

16. A method of providing a modulated power supply including applying a first voltage to one side of a transformer and applying a second voltage to another side of the transformer, wherein a sum of the first and second voltages provides a modulated output voltage on one of the first or second sides of the transformer representing the first voltage adjusted by the second voltage.

With regard to D3, nowhere does D3 teach or suggest, alone or in combination with the other references, what amended claim 16 recites — namely applying a second voltage to the secondary side of the transformer.

With regard to D4, nowhere does D4 teach or suggest, alone or in combination with the other references, what amended claim 16 recites — namely applying a second voltage to the secondary side of the transformer.

Moreover, neither D3 nor D4 discloses generating a modulated power supply voltage.

For the reasons provided above and with respect to the rejection of claim 1, the applicant respectfully submits that claim 16 is also novel as well as inventive over D3.

For the reasons provided above and with respect to the rejection of claim 1, the applicant respectfully submits that claim 16 is novel as well as inventive over D4.

The applicant further submits that claim 16 should be allowed.

Regarding claims 26 and 40, the applicant has canceled those claims.

35 U.S.C. § 103 Rejection of Claims 2-14, 17-25, 28-34, and 36-39

Claims 2-14, 17-25, 28-34, and 36-39 were rejected under 35 U.S.C. § 103 as being unpatentable over D3 or D4, in view of SU1001396 (hereinafter "D5"), JP8149899 (hereinafter "D6"), or GB717075 (hereinafter "D7").

Because claims 2-14, as well as new claims 41 and 42, are dependent on claim 1 and because D5, D6, and D7 fail to cure the deficiencies of either D3 or D4 in respect of the rejection of claim 1, the applicant respectfully submits that these claims should be allowed.

Because claims 17-25, as well as new claims 43 and 44, are dependent on claim 16 and because D5, D6, and D7 fail to cure the deficiencies of either D3 or D4 in respect of the rejection of claim 16, the applicant respectfully submits that these claims should be allowed.

Regarding claims 28-34 and 36-39, the applicant has canceled those claims.

Request for Reconsideration Pursuant to 37 C.F.R. 1.111

Having responded to each and every ground for objection and rejection in the last Office action, applicants respectfully request reconsideration of the instant application pursuant to 37 CFR 1.111 and request that the Examiner allow all of the pending claims and pass the application to issue.

If there are remaining issues, the applicants respectfully request that Examiner telephone the applicants' agent so that those issues can be resolved as quickly as possible.

Respectfully,
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